

### R E M A R K S

Careful review and examination of the subject application are noted and appreciated.

### SUPPORT FOR THE CLAIM AMENDMENTS

Support for the claim amendments can be found in the specification, for example, on page 7 lines 11-20, page 9 lines 12-17 and FIG. 2 as originally filed. Thus, no new matter has been added.

### CLAIM OBJECTION

The objection to claims 3 and 15 for informalities has been obviated by appropriate amendment and should be withdrawn.

### CLAIM REJECTIONS UNDER 35 U.S.C. §103

The rejection of claims 1, 3-5 and 12-27 under 35 U.S.C. §103(a) as being unpatentable over Takamoto, et al. '631 (hereafter Takamoto) in view of Chiussi et al. '213 (hereafter Chiussi) has been obviated in part by appropriate amendment, is respectfully traversed in part and should be withdrawn.

The rejection of claims 16, 20, 22 and 26 under 35 U.S.C. §103(a) as being unpatentable over Takamoto in view of Chiussi and Sung '440 is respectfully traversed and should be withdrawn.

The rejection of claims 17 and 23 under 35 U.S.C. §103(a) as being unpatentable over Takamoto in view of Chiussi and Deng '097 is respectfully traversed and should be withdrawn.

Takamoto concerns a method and apparatus for transmitting data in a network wherein acknowledgment signals are transmitted to acknowledge receipt of data (Title). Chiussi concerns guaranteeing data transfer delays in data packet networks using earliest deadline first packet schedulers (Title). Sung concerns a device and method for transmitting digital audio and video data (Title). Deng concerns a method and apparatus for buffering received data from a serial bus (Title).

In contrast, claim 1 provides (in part) a step of generating a first packet from data of a first source prior to receiving a second signal granting permission to transmit data. Despite the assertion on page 2 of the Office Action, FIGS. 2 and 4 and column 6 lines 36-50 of Takamoto appear to be silent regarding both (i) a second signal granting permission to transmit data and (ii) generating a data packet prior to receiving the second signal. The cited text of Takamoto reads:

How the system of FIG. 1 works will now be described by referring to FIG. 2. What is shown in FIG. 2 is a process of data transmission and reception between a host 201 (corresponding to the host 101 in FIG. 1) and a host 202 (corresponding to the host 101 in FIG. 1), both connected to a network 216. Specifically, the host 201 transmits data 203 constituting an ACK unit of the host 201, the data 203 being received (as data 204) by the computer 202. The ACK unit is a unit of data for which an ACK must be returned before the next packet of data can be transmitted. The computers 201 and 202 are connected to communication controllers 205 and 206 respectively. The data 203 sent from the computer 201 is divided in the communication controller 205 into three data 209 each constituting a sub-ACK unit. Each divided data 209 is constructed as a packet 208.

Nowhere in the above text, or in any other section, does Takamoto appear to discuss (i) **a second signal granting permission to transmit data** and (ii) generating a data packet **prior to receiving the second signal**. Therefore, Takamoto and Chiusi, alone or in combination, do not appear to teach or suggest a step of generating a first packet from data of a first source prior to receiving a second signal granting permission to transmit data as presently claimed.

Furthermore, *prima facie* obviousness has not been established for lack of clear and particular evidence of motivation to combine the references. The asserted motivation provided on page 3 of the Office Action "to provide a continuous stream of data so as to satisfy the QoS requirements of delay-sensitive applications, and ensure that real-time traffic and best-effort

traffic can coexist on the same network infrastructure" does not appear to be based on either reference or knowledge generally available to one of ordinary skill in the art as required by MPEP §2142. Therefore, the Examiner is respectfully requested to either (i) identify the source of the alleged motivation and provide evidence if the source is knowledge generally available to one of ordinary skill in the art or (ii) withdrawn the rejection. Claims 12, 13 and 27 provide language similar to claim 1. As such, the claimed invention is fully patentable over the cited references and the rejection should be withdrawn.

Claim 1 further provides a step of generating a third signal requesting a change of data source from a first source to a second source subsequent to generating a first packet. In contrast, each of Takamoto and Chiussi appear to be silent regarding a signal requesting a change from one data source to another data source. Therefore, Takamoto and Chiussi, alone or in combination, do not appear to teach or suggest a step of generating a third signal requesting a change of data source from a first source to a second source subsequent to a step of generating a first packet as presently claimed. Furthermore, the Office Action does not provide any cites into Takamoto and/or Chiussi for the claimed third signal. The Examiner is respectfully requested to

either (i) provide clear and specific evidence where Takamoto and/or Chiusi allegedly teach or suggest generating a signal requesting a change of data sources subsequent to generate a data packet or (ii) withdraw the rejection. Claim 12 provides language similar to claim 1. Claims 13 and 27 provide language similar to claim 1 with an apparatus having a means for receiving the third signal instead of a step for generating the third signal.

Claim 1 further provides generating the third signal if data of a first source is incomplete for transmission. Despite the assertion on page 3 of the Office Action, the text in the abstract, FIGS. 1, 2 and 3, column 1 lines 20-35 and column 4 line 55-column 5 line 25 of Chiusi appear to be silent regarding any determination that data from a first source is incomplete for transmission. Therefore, Takamoto and Chiusi, alone or in combination, do not appear to teach or suggest transmitting the third signal if data of a first source is incomplete for transmission as presently claimed. Claim 13 provides language similar to claim 1. As such, the claimed invention is fully patentable over the cited references and the rejection should be withdrawn.

Claim 12 further provides transmitting a third signal if a time stamp included in data of a first source is later than a

time of receiving a second signal. In contrast, both Takamoto and Chiussi appear to be silent regarding a receiving time for a signal granting permission to transfer data. Therefore, Takamoto and Chiussi, alone or in combination, do not appear to teach or suggest transmitting a third signal if a time stamp included in data of a first source is later than a time of receiving a second signal as presently claimed. Furthermore, the argument on page 4 of the Office Action covers language not found in the claims. The claim provides **a time of receiving the second signal**. No claim limitations exists regarding "time stamp differences within the data packets being transmitted" as discussed in the Office Action. Claim 27 provides language similar to claim 12. As such, the claimed invention is fully patentable over the cited references and the rejection should be withdrawn.

Claim 3 provides that generating the third signal occurs if a time stamp included in data of a first source is later than a time of receiving a second signal granting permission to transmit data. In contrast, each of Takamoto and Chiussi appear to be silent regarding a time of receiving a signal granting permission to transmit data. Therefore, Takamoto and Chiussi, alone or in combination, do not appear to teach or suggest that generating a third signal occurs if a time stamp included in data of a first

source is later than a time of receiving a second signal granting permission to transmit data as presently claimed. Furthermore, the assertion on page 4 of the Office Action that Chiussi teaches time stamping of data packets fails to address the claimed second signal granting permission to transmit data. Claim 15 provides language similar to claim 3. As such, claims 3 and 15 are fully patentable over the cited references and the rejection should be withdrawn.

Claim 4 provides discarding a first data packet prior to transmission in response to a change to a second data source. Despite the assertion on page 3, last paragraph of the Office Action, FIG. 9 and column 9 lines 19-43 of Takamoto appear to be silent regarding discarding packets prior to transmission. The cited text of Takamoto reads:

FIG. 9 is a flowchart of the consecutive transmission controlling program 2406 of the host at data transmission. The consecutive transmission controlling program 2406 is called up by the packet transmitting program 2404 of FIG. 8. Step 2501, temporarily places in the transmission incomplete data buffer 2407 the data for which a transmission request has been issued by the packet transmitting program 2404. Step 2502 issues a transmission request to the communication controller 2408. Details of this step will be described later. The consecutive transmission controlling program 2406 notifies the packet transmitting program 2404 is notified of the completion of data transmission at this moment by the step 2503. This allows the packet transmitting program 2404 to regard as if the ACK has been returned for the transmitted data, and to request transmission of the next data. If more data to be transmitted is found to exist in step 2504, the process starting from the step 2501 is again repeated. The transmission incomplete data buffer 2407 retains its contents

until the transmission is normally completed, in preparation for possible retransmission of lost packet data. Whereas the procedure of data retention is performed traditionally by the packet transmitting program 2404, **the program 2404 here discards the data because the process is considered normally terminated by the step 2503.** (Emphasis added)

Takamoto appears to contemplate discarding copies of data packets upon successfully transmitting the data packets, not (i) prior to transmission or (ii) in response to changing data sources. Therefore, Takamoto and Chiusi, alone or in combination, do not appear to teach or suggest discarding a first data packet prior to transmission in response to a change to a second data source as presently claimed. As such, claim 4 is fully patentable over the cited references and the rejection should be withdrawn.

Claim 5 provides that generating of a third signal requesting a change of data sources occurs after receiving a second signal granting permission to transmit data. In contrast, both Takamoto and Chiusi appear to be silent regarding both a signal granting permission to transmit data and a signal requesting a change of data sources. Therefore, Takamoto and Chiusi, alone or in combination, do not appear to teach or suggest that generating of a third signal requesting a change of data sources occurs after receiving a second signal granting permission to transmit data as presently claimed. Furthermore, despite the assertion on page 4 of the Office Action, FIG. 4 of Takamoto appears to be silent

regarding the claimed signals and their relationship in time. Therefore, the Examiner is respectfully requested to identify the two signals in FIG. 4 of Takamoto that are allegedly similar to the claimed second signal and the claimed third signal or (ii) withdraw the rejection to claim 5.

Claim 14 provides a link controller generating a second packet when a second signal granting permission to transmit data is active. In contrast, both Takamoto and Chiusi appear to be silent regarding both a link controller and a signal granting permission to transmit data. Therefore, Takamoto and Chiusi, alone or in combination, do not appear to teach or suggest a link controller generating a second packet when a second signal granting permission to transmit data is active as presently claimed. Furthermore, the argument on page 5 of the Office Action fails to clearly identify either a link controller or a signal granting permission to transmit data. Therefore, the Examiner is respectfully requested to either (i) identify both a link controller and a signal granting permission to transmit data in Takamoto or (ii) withdraw the rejection to claim 14.

Claim 18 provides a step for transmitting data of a first source in response to a third signal requesting a change of data source remaining inactive during a specified period. Despite the

assertion on page 5 of the Office Action, the text in column 8 lines 25-31 of Takamoto appear to be silent regarding a signal requesting a change of data source related to a specified period.

The cited text of Takamoto reads:

According to the method of FIG. 5, hosts 501 and 504 or communication controllers 502 and 503 transmit data and ACK for each data transfer request from a user program. Because it takes time before each ACK is returned with this method, a prolonged time period is required before a succeeding packet is transmitted.

Nowhere in the above text, or in any other section, does Takamoto appear to discuss a signal requesting a change of data source remaining inactive for a specified period. Therefore, Takamoto and Chiussi, alone or in combination, do not appear to teach or suggest a step for transmitting data of a first source in response to a third signal requesting a change of data source remaining inactive during a specified period as presently claimed. As such, claim 18 is fully patentable over the cited references and the rejection should be withdrawn.

Claim 19 provides a step for discarding a first packet prior to a transmission in response to generating a third signal requesting a change of data source occurring within a specified period. Despite the assertion on page 5 of the Office Action, the text of Takamoto in column 8, lines 31-47 appear to be silent regarding discarding packets prior to transmission and a signal

requesting a change of data source relative to a specified period.

The cited text of Takamoto reads:

FIG. 6 depicts another conventional method which improves transfer performance by dividing a set of user data into a plurality of packets and by transmitting those packets. According to the method of FIG. 6, a data receiving communication control board 603 returns only one ACK for the entire set of user data (605 or 607). This means that if any one of the divided packets has developed transmission error, all packets need to be retransmitted. Where long communication distances are involved, the conventional method is subject to a growing probability of data losses and can diminish the performance of data transfer instead of improving it. These pitfalls are circumvented by the first embodiment of the invention using sub-ACK units. The sub-ACK units make it possible to verify which of the divided packets has developed an error. Therefore, even transmission data over long distances requires small amount of data to be retransmitted and thus enjoy higher speeds of data transfer.

Nowhere in the above text, or in any other section, does Takamoto appear to discuss discarding packets prior to transmission and a responsive signal requesting a change of data source. Therefore, Takamoto and Chiussi, alone or in combination, do not appear to teach or suggest a step for discarding a first packet prior to a transmission in response to generating a third signal requesting a change of data source occurring within a specified period as presently claimed. Claim 25 provides language similar to claim 19. As such, claims 19 and 25 are fully patentable over the cited references and the rejection should be withdrawn.

Claim 21 provides that generating a third signal

requesting a change of data source occurs if data of a first source is incomplete for transmission. In contrast, both Takamoto and Chiussi appear to be silent regarding generation of a signal requesting a change of data sources if data from a first source is incomplete for transmission as presently claimed. As such, claim 21 is fully patentable over the cited references and the rejection should be withdrawn.

Regarding claims 16 and 22, no clear and particular evidence of motivation has been provided to combine Takamoto and Chiussi with Sung. The asserted motivation on page 6 of the Office Action "to allow for transmission time controlling for transmitting source and empty packets to convert the transmission timing of an inner bus of a digital device to a timing predesignated in the transmission specification" does not appear to be based on Takamoto, Chiussi, Sung or knowledge generally available to one of ordinary skill in the art as required by MPEP §2142. Therefore, the Examiner is respectfully requested to either (i) identify the source of the alleged motivation and identify the "inner bus" for the proposed combination of Takamoto and Chiussi or (ii) withdrawn the rejection to claims 16 and 22.

Regarding claims 20 and 26, no evidence has been provided that the proposed combination of Takamoto, Chiussi and Sung would

have a reasonable expectation of success as required by MPEP §2142. In particular, no showing has been made that the IEEE 1394 protocol of Sung would work with the sub-ACK unit transmission process of Takamoto. Therefore, *prima facie* obviousness has not been established. As such, the Examiner is respectfully requested to provide evidence that Takamoto could be reasonably be implemented with the IEEE 1394 protocol or (ii) withdraw the rejection to claims 20 and 26.

Claims 17 provides a step for recovering a speed code from data of a first source for use in arbitrating for a second signal granting permission to transmit. In contrast, each of Takamoto, Chiussi and Deng appear to be silent regarding a speed code for use in arbitrating. Therefore, Takamoto, Chiussi and Deng, alone or in combination, do not appear to teach or suggest a step for recovering a speed code from data of a first source for use in arbitrating for a second signal granting permission to transmit as presently claimed. Claim 23 provides language similar to claim 17. As such, claims 17 and 23 fully patentable over the cited references and the rejection should be withdrawn.

COMPLETENESS OF THE OFFICE ACTION

Aside from a notice of allowance, Applicant's representative respectfully requests any further action on the merits be presented as a non-final action. 37 CFR §1.104(b) states:

(b) *Completeness of examiner's action.* The examiner's **action will be complete as to all matters**, except that in appropriate circumstances, such as misjoinder of invention, fundamental defects in the application, and the like, the action of the examiner may be limited to such matters of form need not be raised by the examiner until a claim is found allowable. (Emphasis added)

Page 2 of the Office Action rejects claims 16, 17, 20, 22 and 26 under 35 U.S.C. §103(a) as being unpatentable over Takamoto in view of Chiussi. However, no arguments were provided in the body of the Office Action in support of the rejections. As such, the Office Action mailed March 26, 2004 is incomplete.

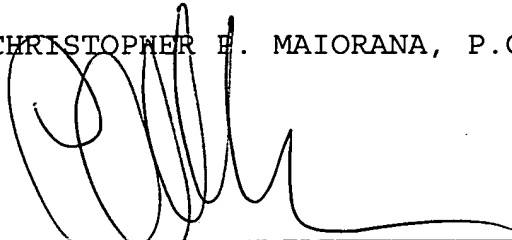
Accordingly, the present application is in condition for allowance. Early and favorable action by the Examiner is respectfully solicited.

The Examiner is respectfully invited to call the Applicant's representative at 586-498-0670 should it be deemed beneficial to further advance prosecution of the application.

If any additional fees are due, please charge Deposit  
Account No. 12-2252.

Respectfully submitted,

CHRISTOPHER E. MAIORANA, P.C.

A handwritten signature in black ink, appearing to be 'C. Maiorana', written over a horizontal line.

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Dated: June 24, 2004

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